AtomOD15G

Outdoor Customer Premise Equipment Datasheet

INTRODUCTION

The Baicells AtomOD15G Outdoor High-Gain CPE provides superior performance and routing capabilities to bring broadband data and voice services to end-users. It operates on standard LTE TDD, supports multiple bands, and complies with 3GPP Release 12 CAT15 standards.

The AtomOD15 is available in two variants: The CAT-B CBSD, which requires SAS connectivity and CPI certification, and the EUD, which does not require SAS connectivity or CPI certification.

The CPE design incorporates UL 2x2 and DL 4x4 MIMO and RX diversity, enabling improved cell coverage and high-speed wireless communications. It also supports Carrier Aggregation (CA), which extends bandwidth, increases data rates, and improves overall network performance.

The product comes with a standard one-year warranty; an extended warranty is available.

HIGHLIGHTS

NOTE: Features can vary based on model or region.

- Supports LTE TDD Bands 38/40/41/42/43/48
- Complies with 3GPP Release 12 CAT15 standards
- 1000 Mbps Ethernet interface
- Peak data rate of up to DL 580 Mbps and UL 30 Mbps
- Supports MCS
- 256QAM for DL and 64QAM for UL as the highest order modulation formats.
- Built-in LTE directional antenna, 4x4 MIMO
- Power supply with PoE
- GUI-based local and remote Web management
- Supports TR-069 network management protocol
- Cell lock, SIM lock, and pin lock
- User-friendly LED status indicators
- Pole or wall mounted
- Wi-Fi assisted alignment
- CBRS EUD option is available.
- Transparent bridge mode* (L2 Support)

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TECHNOLOGY

LTE Standard	3GPP Release12, CAT15
LTE Mode	TDD
Channel Bandwidth	SC: 5/10/15/20 MHz CA: 80 MHz as maximum aggregated bandwidth
Frequency Bands	B38 (2570 MHz-2620 MHz), B40 (2300 MHz- 2400 MHz) B41 (2496 MHz- 2690 MHz), B42 (3400 MHz- 3600 MHz) B43 (3600 MHz- 3800 MHz), B48 (3550 MHz- 3700 MHz)
Multiplexing	DL 4x4 MIMO, UL 2x2MIMO*
Security	Firewall: IP/MAC/URL filter; ACL rule

INTERFACE

Ethernet Interfaced	1 RJ-45 port 10/100/1000 auto-sensing, auto-MDX, PoE
Power Supply	24VDC Passive PoE Injector
Protocols Used	IPv4/IPV6, UDP, TCP, IP, ICMP, SNMPv2c, SNMPv3c, HTTPS, SSH, TELNET, TR069, CBSD
Network Management	Web GUI, ACS, OMC, SNMP
VLAN	802.1Q

PERFORMANCE

Peak Rate	**4x20MHz (CA)**	**DL (2x2 MIMO, 256QAM)**	**UL (64QAM, 2x20MHz only)**
	TDD UL/DL Config. 1	420 Mbps	60 Mbps
	TDD UL/DL Config. 2	580 Mbps	30 Mbps
	2x20MHz (CA)	**DL (4x4 MIMO, 64QAM)**	**UL (64QAM)**
	TDD UL/DL Config. 1	320 Mbps	60 Mbps
	TDD UL/DL Config. 2	440 Mbps	30 Mbps
Modulation	DL: QPSK, 16QAM, 64QAM, 256QAM UL: QPSK, 16QAM, 64QAM		
Carrier Aggregation	DL 2CA/3CA/4CA (2x2 MIMO), DL 2CA (4x4MIMO)		

	UL: 2CA (SISO)
Receive Sensitivity	-96±2 dBm @QPSK, 20MHz, 25°C, -102±2 dBm @ 4RX Diversity

MODULATION LEVELS (ADAPTIVE)

DL MCS	DL Modulation	CQI Index	Theoretical Data Rate
0 - 4	QPSK	1 - 3	10Mbps - 70Mbps
5 - 10	16QAM	4 - 6	100Mbps - 190Mbps
11 - 19	64QAM	7 - 11	200Mbps - 350Mbps
20 - 27	256QAM	12 - 15	400Mbps - 580Mbps

UL MCS	UL Modulation	Theoretical Data Rate
0 - 10	QPSK	0.5Mbps - 7Mbps
11 - 20	16QAM	7Mbps - 17Mbps
21 - 28	64QAM	17Mbps - 30Mbps

FEATURES

Network Mode	NAT or Bridge
SIM	PIN management, SIM lock
Network Connection	Auto or manual
LTE Scan Mode	Full band scan or frequency lock
VPN	L2TP L2/L3, GRE L2/L3
NAT	Port forwarding, port trigger, DMZ, ALG
Diagnostics	TCP dump, ping, traceroute
Statistics	LTE status; connection/system up time; device status; DHCP client list; Wi-Fi station list; firewall status
Maintenance	Date and time setting; reboot; restore factory settings; restore or back up configuration file; firmware upgrade locally or OTA

LINK BUDGET

Antenna Type	Internal directional, 2T4R
Antenna Gain	M11: 18dBi

	M11-EUD: 18dBi
	M19: 14dBi
Max Transmit Power	M11: 26dBm (combined, to regional EIRP limit)
	M11-EUD: 5dBm (combined, to regional EIRP limit)
	M19: 26dBm (combined, to regional EIRP limit)
Maximum EIRP	M11: 44dBm
	M11-EUD: 23dBm
	M19: 40dBm

PHYSICAL

IP Protection Rating	IP66
LED Indicators	PWR, LTE, LTE Signal
USIM	1.8V/3V 2FF
Restore Button	Press for 10 seconds to restore the UE to its factory settings
Temperature	• Operating Temperature: -40°F to 131°F / -40°C to 55°C • Storage Temperature: -40°F to 158°F / -40°C to 70°C
Humidity	5%~95%
Power Consumption	<10 W
Power Supply	With PoE Adaptor: INPUT 100-240VAC OUTPUT 24VDC 0.5A
Weight	About 7.3lbs / 3.47kg
Dimensions	14.5 x 14.5 x 2.9 inches / 368 x 368 x 74 millimeters

WI-FI ALIGNMENT SPECIFICATIONS

|	
Standard	IEEE 802.11b/g/n
Channel Bandwidth	20/40 MHz
Frequency	2.4 GHz
MIMO	1x1
Peak Rate	802.11b: 11 Mbps

	802.11g: 54 Mbps
	802.11n: 150 Mbps
Modulation	DSSS/CCK, OFDM
Receive Sensitivity	-64 dBm @ 65 Mbps, typical for 802.11n
	-65 dBm @ 54 Mbps, typical for 802.11g
	-76 dBm @ 11 Mbps, typical for 802.11b
Max Output Power	10 ± 3 dBm
Antenna Type	Internal omni, 1T1R
Antenna Gain	<1 dBi

GLOBAL PART NUMBERS

EG8015G-M11	Atom Outdoor CAT15, 2T4R, 3.5 GHz, 18dBi, B42/43/48 CPE, IP67 • FCC certification: 2AG32EG8015GM11 (3550-3700MHz) • IC certification: 20982-EG8015GM11 (3450-3700MHz)
EG8015G-M19	Atom Outdoor CAT15, 2T4R, 2.6 GHz, 14dBi, B38/40/41 CPE, IP67 • FCC certification: 2AG32EG8015GM19 (2490-2690 MHz) • IC certification: 20982-EG8015GM11 (2570-2620MHz)
EG7015G-M11	Atom Outdoor CAT15, 2T4R, 3.5GHz, 18dBi, B42/43/48, CPE, IP67 FCC certification: TBD *NOTE: Customized versions may be requested. Bands can be customized (B1/3/7/8/20/38/40/41)*
EG8015G-M11-EUD	Atom Outdoor CAT15, 2T4R, 3.5 GHz, 18dBi, B42/43/48 CPE, IP67 FCC certification: 2AG32EG8015GM11EUD (3550-3700MHz)

ANTENNA PATTERN
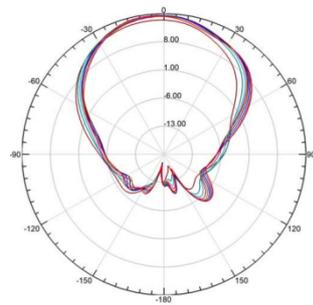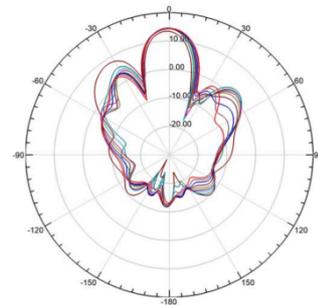
EG8015G-M11
EG8015G-M11-EUD
EG7015G-M11
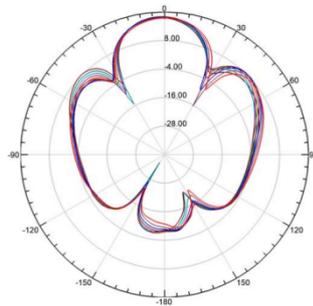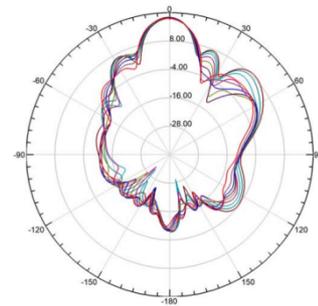
H-Pattern   V-Pattern

EG8015G-M19

H-Pattern   V-Pattern